

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at page 12, line 4, with the following rewritten paragraph.

-- The detection layer 9 is preferably produced in the following manner, and is formed by a polycrystal film comprising either one of CdTe (cadmium telluride), ZnTe (zinc telluride) and CdZnTe (cadmium zinc telluride) or laminate films 9a, 9b ~~5a, 5b~~ of polycrystal including at least one thereof and doped with Cl. --

Please replace the paragraph beginning at page 13, line 14, with the following rewritten paragraph.

-- The connection-side electrode 17b and the source electrode 19b are simultaneously formed and communicated with each other. As the insulation film 23 and the insulation film 25, a plasma SiN film, for example, can be adopted. In the condition that the radiation detector 1 and the switching matrix substrate 15 are positioned, these are bonded together by heating and pressuring while aligning the detection electrode 13 and the connection-side electrode 17b of the capacitor 17 and interposing, for example, an anisotropic conductive film (ACF) or anisotropic conductive paste therebetween. Consequently, the radiation detector 1 and the switching matrix substrate 15 are bonded and integrated. At this time, the detection electrode 13 and the connection-side electrode 17b are made conductive by an interposed conductive portion 27. --

Please replace the paragraph beginning at page 16, line 10, with the following rewritten paragraph.

-- According to the radiation detector 1 configured as described above, since the grain boundary or the like existing in the detection layer 9 formed of polycrystal material is protected by Cl, and Cl is doped, the protection is effective not only in the vicinity of the surface but also

in the interior. Accordingly, it is possible to improve the detecting characteristics of radiation (sensitivity, responsibility and the like) while keeping the leak current low. Furthermore, by conducting Cl doping in vapor phase, the crystal grains in the detection layer 9 are uniform_ized (improvement in morphology), ~~resulting that~~ As a result, the output uniformity in the surface can be improved. --

Please replace the paragraph beginning at page 18, line 24, with the following rewritten paragraph.

-- From FIG. 7 and FIG. 8, significant difference in crystal grains is clearly observed between the prior art and the present invention. According to the present invention, by conducting Cl doping in vapor phase such as vapor or gas, the crystal grains in the detection layer 9 are uniform_ized (improvement in morphology), and hence the output uniformity in the surface is improved. --